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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,495	07/30/2001	Sebastien Ferroussat	S1022/8718	4927
23628	7590	06/07/2004	EXAMINER	
WOLF GREENFIELD & SACKS, PC FEDERAL RESERVE PLAZA 600 ATLANTIC AVENUE BOSTON, MA 02210-2211			MAI, TAN V	
			ART UNIT	PAPER NUMBER
			2124	

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/919,495	FERROUSSAT, SEBASTIEN	
	Examiner	Art Unit	
	Tan V Mai	2124	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7-30-01 & 10-12-01.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-23 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. The drawings are objected to because Figs. 1-3 should be labeled "PRIOR ART".

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. Claims 11-14, 21 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim language is vague and indefinite. For instance, although the preamble of independent claim 11 claim a "carry save adder circuit for reducing nine inputs to four outputs", the claim fails to recite the necessary detail physical interconnection between the [first-fourth] adders. Sufficient detail interconnections must be recited to adequately describe and constitute the proposed "carry save adder circuit". Similarly noted independent claims 13 and 21-22.

As per claim 14, "claim 11" should be ~~claim 13~~.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-3, 11, 15-21 and 23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Mou et al.

As per independent claim 1, Mou et al teach the claimed combination. For example, Fig. 4b shows elements (Ce12 (top portion), Be1, Ce12 (bottom portion) and Ce11 (top portion)) are considered the claimed first to fourth carry save adders.

As per dependent claim 2, the output of element Be3 coupled to the input of Ce12 (bottom portion) is considered the detail claimed feature.

As per dependent claim 3, the claim details "9 to 4 carry save adder circuit". Mou et al show the claimed feature, e.g., 9 inputs of elements (Be3, Ce12 & Be1) and 4 outputs of elements (Ce12 (bottom portion), Ce11 (top portion)).

As per independent claim 11, Mou et al teach the claimed combination. For example, Fig. 4b shows elements (Ce12, Be1, Ce11 (top portion) and Ce11 (bottom portion)) are considered the claimed first to fourth carry save adders.

Due to the similarity of independent claim 21 to claim 11, it is rejected under a similar rationale.

As per dependent claim 15, Mou et al show the claimed feature.

As per independent claim 16, Mou et al detail the arithmetic unit having a "plurality of carry save adder circuits" as claimed, e.g., see addition "first to fourth carry save adders" in "Fig. 4b, 2 nd BUSH, top two rows of columns (Q_2 & Q_3)".

As per dependent claims 17-20, Mou et al show the claimed features.

Due to the similarity of independent claim 23 to claim 20, it is rejected under a similar rationale.

5. Claims 1-3, 15-20 and 23 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Vijayrao et al.

As per independent claim 1, Vijayrao et al teach the claimed combination. For example, Fig. 2 shows CSAs 0, 1, 11 & 12 [in block 224] are considered the claimed first to fourth carry save adders.

As per dependent claim 2, the input(s) A & C is considered the detail claimed feature.

As per dependent claim 3, the claim details "9 to 4 carry save adder circuit". Vijayrao et al show the claimed feature, e.g., see blocks (212, 214 & 222).

As per dependent claim 15, Vijayrao et al show the claimed feature.

As per independent claim 16, Vijayrao et al detail the arithmetic unit having a "plurality of carry save adder circuits" as claimed, e.g., see addition "first to fourth carry save adders" in blocks (212, 214 & 222).

As per dependent claims 17-20, Vijayrao et al show the claimed features.

Due to the similarity of independent claim 23 to claim 20, it is rejected under a similar rationale.

6. Claims 1-3, 15-20 and 23 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Eisig et al.

As per independent claim 1, Eisig et al teach the claimed combination. For example, Fig. 25A shows CSA (188 top, 188 bottom, 227 & 231) are considered the claimed first to fourth carry save adders.

As per dependent claim 2, the input 241 is considered the detail claimed feature.

As per dependent claim 3, the claim details "9 to 4 carry save adder circuit". Eisig et al show the claimed feature.

As per dependent claim 15, Eisig et al show the claimed feature.

As per independent claim 16, Eisig et al detail the arithmetic unit having a "plurality of carry save adder circuits" as claimed, e.g., see Figs. 19-20 which use a plurality of Figs. 25A-25B.

As per dependent claims 17-20, Eisig et al show the claimed features.

Due to the similarity of independent claim 23 to claims 1 & 20, it is rejected under a similar rationale.

7. Claims 1-3, 7-10, 13, 15 and 22 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Griesbach et al.

As per independent claim 1, Griesbach et al teach the claimed combination. For example, Fig. 2 shows elements in Z6-Z7 column (first layer CSAs (24,24), second layer (CSA has Z6 output & half adder 22)) are considered the claimed first to fourth carry save adders.

As per dependent claim 2, the input of half adder (22) is considered the detail claimed feature.

As per dependent claim 7, the claim adds "7 to 4 carry save adder circuit". Griesbach et al show the claimed feature.

As per dependent claims 8-10, Griesbach et al show the claimed feature.

As per dependent claim 15, Griesbach et al show the claimed feature.

Due to the similarity of independent claims 13 & 22 to claim 8, they are rejected under a similar rationale.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.⁷

9. Claims 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mou et al.

Mou et al have been discussed in paragraph 4 above.

As per dependent claim 7, the claim adds "7 to 4 carry save adder circuit". Mou et al show either "8 to 4 carry save adder circuit" or "9 to 4 carry save adder circuit". It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Mou et al's teachings because the device is a carry save adder circuit having two layers as claimed.

As per dependent claims 9 and 10, Mou et al show the claimed features.

10. Claims 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vijayrao et al.

Vijayrao et al have been discussed in paragraph 5 above.

As per dependent claim 7, the claim adds "7 to 4 carry save adder circuit".

Vijayrao et al show either "8 to 4 carry save adder circuit" or "9 to 4 carry save adder circuit". It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Vijayrao et al's teachings because the device is a carry save adder circuit having two layers as claimed.

As per dependent claims 9 and 10, Vijayrao et al show the claimed features.

11. Claims 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eisig et al.

Eisig et al have been discussed in paragraph 6 above.

As per dependent claim 7, the claim adds "7 to 4 carry save adder circuit". Eisig et al show "9 to 4 carry save adder circuit". It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Eisig et al's teachings because the device is a carry save adder circuit having two layers as claimed.

As per dependent claims 9 and 10, Eisig et al show the claimed features.

12. Claims 4-6, 12 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited references are art of interest.

14. The following is an examiner's statement of reasons for allowance: the recorded references do NOT teach or suggest the novel detail interconnection between the CSAs as recited in dependent claims 4, 12 & 14.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (703) 305-9761. The examiner can normally be reached on Tue-Fri from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki, can be reached on (703) 305-9662. The fax phone numbers for the organization where this application or proceeding is assigned are:

After-final	(703) 746-7238
Official	(703) 746-7239
Non-Official/Draft	(703) 746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



TAN V. MAI
PRIMARY EXAMINER